



Vol. 5 No. 5

Price \$1.50

April 1986

April 1 San Jose Ca.:

NEWS FLASH! Tramiel Buys Back Commodore and Apple in the same day!
See details inside.

Calendar of Events:

Next meeting - Saturday, April 19, 1986
Ambruster School - 7000 Greenway - Greenfield, WI

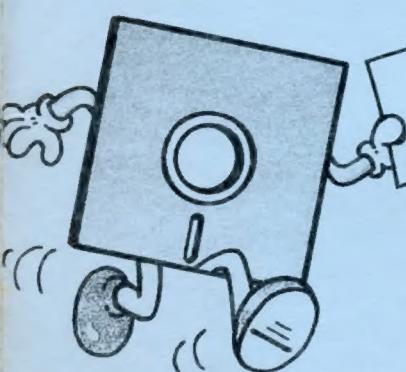
Doors open at 2:00 PM

BASIC Class and 16-bit SIG at 2:15 PM

Business meeting at 3:30 PM
Nominating committee report

Demonstration at 4:00 PM
ATARI WRITER PLUS

***** ATARI IN THE PRESS



The future of ATARI may be up for grabs but... more publications are featuring articles on ATARI machines. For example, MICRO CORUCOPIA (a magazine formally dedicated to 8-bit single board computers) has an article entitled "Porting A 68000 Assembler To The Atari ST" in their April issue. VALWORLD GAZETTE which originally addressed Epson computer owners is now featuring articles on the Atari ST. The current issue has two articles for ST owners, 520ST vs 1040ST and THE FABULOUS ST.

Samples of both magazines will be available at the meeting.
(Continued on page 7)

FROM THE DISK OF

Dave Frazer



THE FUZZY NOLAN REVIEW

BY GARY NOLAN



WARNING! WARNING!! WARNING!!!

In last months column I told you about an offer for VIP Professional, a Lotus 123 clone, from a company called Gumball Express. It has come to my attention that the people who own VIP and the people who own Gumball (Shanner) are involved in a lawsuit with VIP claiming that Shanner is no longer permitted to sell their spredsheet. They also say that they WILL NOT honor the warranty of any program sold by Gumball. So take heed and buy wisely. If you've already ordered from them do not accept delivery on it. If you already have opened the package try contacting Gumball to return it. If that doesn't work contact the California Attorney General's office in Sacramento. We have been told that you could run into problems if you try to hook up a non-Atari RGB monitor to the ST's. Atari is rumored to be readying a monitor that has both composit and RGB inputs so it will work on both the 8-bit and 16-bit systems.

COVER YOUR TRAKS

Anybody out there with a Trak disk drive? Thinking about getting rid of it because it's hard to find repairs? Well take note. Integrated Computer Resources at 247 N. Neltnor Blvd., Suite G1F in West Chicago, IL 60185 will repair and upgrade Trak drives, they can also supply cables for the AT-D2 drives with the built-in printer port/buffer. For more info contact them at the above address or give them a call at (312) 231-6104.

And if you're one of those with a Percom, STS Computers at 1073 W. Broad St. in Falls Church, VA 22046 has a nationwide contract to repair these drives. They have also developed a new OS ROM for these drives. For more information contact them or call them at (703) 237-0558.

WORK, WORK, WORK

The ST's have been getting a real workout lately. IQ Peripherals of Mountain View, CA is developing the ST into a low cost UNIX workstation. It will use UNIX System V from AT&T which will allow it to hook up to mainframes. The system to be introduced later this year will retain its ability to function as a standard Atari ST and will cost about half of what current stand alone workstations cost. Atari meanwhile is working on its own UNIX products.

One west coast dealer has reported a large number of ST sales to business accounts that plan to use them as "smart" terminals. It really is like getting two for the price of one.

REPORTS OF ITS DEATH ARE GREATLY EXAGGERATED!!!

CP/M ain't dead yet folks. But it shure is breathing a mite harder. There is a million plus CP/M machines out there, plus a bunch of ATR's that could use some good software. Some of those machines are going on their second owners. And the prices on new unsold units are dropping. You can buy a Kaypro clone with 2-DSDD, 9" amber screen, Micropro software (Wordstar, ECT.), parallel & serial ports and built in speech synthsizer for only \$525 shipping included. And don't think these are slow dogs either. Remember, the IBM PC is only two steps faster than dry concrete. There are still several companies developing software for these machines. Some are producing hardware add-ons for them too. One of them is Periphco of Santa Clara. They are offering an EPROM (chip) programer to user groups at special prices. This unit, the Programmer/4+ will program 2 to 16K ROM and EPROMS including CMOS types. It hooks up through the RS232 port and comes with software on disk in several formats. This completely built and tested unit costs \$175 in lots of 1 to 9 and \$155 for 10 or more. For more info see me at the meeting if

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SHHHH!!! MAYBE NO ONE WILL NOTICE

Tandy (aka Radio Shack) had what they thought was a great new way to sell computers to the masses. The Door-to-door approach. Or as you Tupperware freaks call it the "home demonstration". This was supposed to move a lot of Color Computer II's and eventually the Model 1000 into our homes. RS has decided to let someone else tackle this project and has quietly let its effort die. Tandy currently has (this might have ended) a promotion going where you can buy a Model 1200 (XT clone) and get a free Model 100 (laptop, just like Dave's). Now either 1200 sales have slid off the edge or RS has a ton of 100's to get rid of so's they can push the newer 200 & 600. Still it's not that bad of an offer if you need an XT clone and something to tote around with you.

EVERYTHINGS DUCKY(SOMETIMES EVEN I WINCE)

From Holmes & Duckworth, the producers of H&D Bbase for the ST's comes the Journal of Micronymy (sure!). It's a short newsletter type thing that gives tips and news about H&D Base and other programs from Chester and Oliver. Version "125" is now available. It offers some enhancements and corrections to preceding versions. What may they be, you ask? Well lest you think Chet & Ollie have been resting on their laurals, here are a few.
Restructuring of mailing list command file
New mail list program (with GEM interface)

Auto-run feature

Additional error trapping

Correction of all program anomalies (inconsistencies)((BUGS)) reported by users

As a registered owner you are entitled to the anomaly corrections free of charge. These corrections which consist of about 20 lines of Command File code that you type in are available upon request. The other goodies will cost you a mere \$5. Now that's pretty reasonable considering what some other places have charged for upgrades. They have also opened up a Tech Support phone service that is available from 1pm to 5pm (Pacific time) Monday through Friday at (209) 226-1485. You can also call their BBS, if you don't mind the long distance charges, at (209)276-2037. It's up from 1 to 7pm (Pacific time) on weekdays and 24hrs on weekends. These two madcap lads also have two new programs for the ST. The first is Toolbox which consists of five utility programs which include a disk file/sector editor, memory editor, deleted file recovery, directory print and fast format and copy routines. All this for \$39.95. The other offering is H&D Forht, a Forth programming language selling for \$49.95. You can order by phone at (800) 641-1441. Now if we could just get one of you ST types to write a review of H&D for the newsletter, we could find out what this is all about.

MAC ATTACK! MAC ATTACK!

When the ST's were first released everyone talked about porting programs from Apple's Macintosh to the new Atari. Up until now it's been all talk and no action. Well an old hand at fooling around with Atari computers is at it again. David Small (the name should ring a bell with the old timers) and a company called Data Pacific have announced a product called the Mac Cartridge (hold the onions please) that allows the 1040ST or a boosted 520 to run programs from the Macintosh. There are a couple of gotcha's though. The first is pretty easy to solve, and that's how to get the originals over to the ST. Just use a serial cable or modem. The biggest one involves the Macintosh 64K ROM chips that hold most of the computer's user interface. The problem will be in getting Apple to license Data Pacific to make them. Apple is not going to help someone build a machine that can do EVERYTHING theirs can and more! You could buy the cart from DP and buy the ROM's from an Apple dealer and assemble it yourself. But how long do you think the supply would last? Me too. The first showing of the cart will be at the West Coast

Party Quiz Question disk Maker

by Roy Duval

Before Xmas I purchased Party Quiz (it was and still is on sale at Computer Software Center.) This is an enjoyable and well done game system. But I wanted to tailor my own special subject trick questions. So I dug through the clubs archives of other group newsletters and found a program to make PQ Question disks in Computer Squad News (an Illinois group) After long hours of entry (the listing wasn't quite totally readable.) I started entering my questions. The program had a few bugs, as well as, typos. After many more hours I discovered either there must be 2 versions of PQ or the program was seriously flawed. They separated every item with an ESC (27) and my PQ Disk separated items with returns (155). Eventually I decided to write another version which (hopefully) resolved the bugs and added editing features. I chose BASIC although I prefer BASIC XL, due to its availability.

You must have an original PQ Question disk to copy the 1st 9 sectors to your disk then you have 690+ sectors for your questions. Each sector contains 2 question / answer sets (64 characters Max). Sectors 10 thru 540 are for multiple choice questions - Where the first answer is the correct choice. Sectors 540 thru 707 are for True False questions. You must enter a correct answer if the question is false. The edit facility is to edit a question that already exists (my typo's made this facility a mandatory) The program should be available on the BBS or through the club library soon. The deadline for the newsletter limited the testing time, so if you find any new bugs give me a holler. Happy Q's - Roy.

```

For MILATARI March 1986
1 REM PARTY QUIZ QUESTION DISK MAKER
2 REM VERSION 1 BY ROY JOHNSON & STAN
SUBECK
3 REM VERSION 2 BY ROY DUVALL
4 REM THIS PROGRAM IS IN THE PUBLIC DO
MAIN
20 DIM MUL$$(129),B$(64),Q$(64),C$(64),
X$(1),A$(129),D$(1152)
30 NUL$(1)=CHR$(0):MUL$(129)=CHR$(0):N
UL$(2)=NUL$:A=MUL$
100 POKE 752,1
400 GRAPHICS 18:?: #6:?: #6;" PRACTICE QUI
Z DISK":?: #6:?: #6;"          MAKER":?: #6:
? #6:?: #6:?: #6;"      BY roy & stan"
500 OPEN #2,4,0,"K:"
800 D$(1)=CHR$(0):D$(1152)=CHR$(0):D$(2)
=D$:D=ADR(D$):A=ADR(A$)
900 POKE 1536,104:POKE 1537,32:POKE 15
38,83:POKE 1539,228:POKE 1540,96
950 FOR X=1 TO 500:NEXT X
1000 GRAPHICS 0:SETCOLOR 2,7,1:SETCOLO
R 4,2,1:POSITION 15,2:?"MAIN MENU"
1100 POSITION 11,6:?"E-INIT NEW DISK.
"
1200 POSITION 11,8:?"X-WRITE QUESTION
5."
1210 POSITION 11,10:?"X-EXIT PROGRAM.
"
1300 POKE 752,1:POSITION 16,13:?"I/W
?";:GET #2,R
1350 IF R=88 THEN POKE 752,1:?"K":END
"
1400 IF R=73 OR R=105 THEN 1700
1500 GOTO 2000
1600 ? :? :? "ERROR KKKK":FOR I=1 TO 1
700:NEXT I:GOTO 100
1700 TRAP 1600
1800 ? "K":? :? "PUT BLANK DISK IN DRI
VE #1 FOR":? "FORMATTING. HIT RETURN W
HEN READY."::GET #2,R:IF R>155 THEN 1
000
1900 XIO 254,#1,0,0,"D1:"
2000 ? "K":R=0:?"K":POSITION 15,2:?
"WRITE MENU"
2100 POSITION 11,6:?"S-START A NEW DI
SK."
2200 POSITION 11,8:?"C- CONTINUE A DI
SK."
2300 POSITION 11,10:?"T- TOGGLE SHOW
CURRENT."
2350 POSITION 11,12:?"E- EDIT A QUEST
ION."
2380 POSITION 10,16:?"ESC-EXIT TO MAI
N MENU."
2400 POSITION 14,19:?"S/C/T/E ?"::GET
#2,R
2500 IF R=27 THEN 1000
2550 IF R=84 THEN 7500
2560 IF R=69 THEN 8000
2600 IF R=83 OR R=115 THEN 2800
2700 GOTO 4200
2800 ? "K"
2900 TRAP 1600
3000 ? :? :? "INSERT ORIGINAL QUESTI
DISK.":? "HIT RETURN."::GET #2,R
3100 POKE 769,1:POKE 770,82:GOSUB 3200
:GOTO 3900
3200 SUM=0:R=0
3300 SUM=SUM+1
3400 POKE 779,INT(SUM/256):POKE 778,IN
T((SUM/256)-INT(SUM/256))*256

```



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```

10800 TRAP 10500:POSITION 10,4:?"Char
remaining = ";RE:GET #2,Q
10810 IF Q=27 THEN RETURN
10820 IF Q=126 THEN GOSUB 10910:Q=32:G
0SUB 10950:GOTO 10800
10830 GOSUB 10960:GOSUB 10950:GOSUB 10
930:RETURN
10850 NO=0:POSITION 2,20:?"Is this co
rect (Y/N)":GET #2,R:IF R=89 OR R=121
THEN RETURN
10860 NO=1:RETURN
10900 LINE=STL:COL=2:RETURN
10910 W=W-1:RE=RE+1:IF W<0 THEN W=0
10915 IF RE>63 THEN RE=63
10916 COL=COL-1:IF COL<2 THEN COL=39:L
INE=LINE-1:IF LINE<STL THEN GOTO 10900
10920 RETURN
10930 COL=COL+1:IF COL>39 THEN LINE=LI
NE+1:COL=2
10940 RETURN
10950 POSITION COL,LINE:?"CHR$(Q)":RET
URN
10960 RE=RE-1:W=W+1:BS(W)=CHR$(Q):RETU
RN
10970 B=LEN(B$)+1:IF B>=64 THEN RETURN

10975 BS(Q)=NULL$:RETURN
11000 REM SHOW CURRENT FIRST
11010 CM=82:GOSUB 7020:?"Current
contents of sector ";SUM
11020 ? A$:?"Hit any key to continu
e":GET #2,R:RETURN
12000 REM MULTIPLE CHOICE QUESTIONS
12010 IF SHOWME THEN GOSUB 11000
12020 A$=NULL$:AB=0
12030 GOSUB 12500:GOSUB 10400:IF Q=27
THEN 2000
12040 AB=1:GOSUB 12500:GOSUB 10400:IF
Q=27 THEN 2000
12050 GOSUB 7000
12060 SUM=SUM+1:GOTO 12000
12500 REM ASK MULTI QUESTION
12510 B$=NULL$:RE=63:W=0:STL=6
12520 ? "Multiple Choice Questio
ns":GOSUB 10450
12530 GOSUB 10900
12540 GOSUB 10800:IF Q=27 THEN RETURN
12580 IF Q=155 THEN 12600
12590 IF RE<3 THEN GOSUB 10430:GOTO 12
500
12595 GOTO 12540
12600 REM GET ANSWERS
12610 FOR A1=1 TO 4:STL=8+(A1*2):GOSUB
10900
12620 POSITION COL,LINE:?"Enter answe
r ";A1:STL=STL+1:GOSUB 10900
12625 GOSUB 10800:IF Q=27 THEN RETURN
12630 IF Q=155 THEN NEXT A1:GOTO 12700
12640 IF RE<1 THEN GOSUB 10430:GOTO 12
000
12650 GOTO 12625
12700 GOSUB 10850:IF NO THEN 12600
12710 GOSUB 10960:GOSUB 10970:RETURN

```

Reprinted from CURRENT NOTES March 1986

The RUMOR MILL by Joe Waters

The IBM emulator for the ST: will not have the 8087 chip included, but will have 520K, 8080 chip, disk drive port, 100% MS-DOS compatibility, and \$199 price. The prototype will be shown at the Hannover Fair in West Germany this month. I understand that the emulator does run LOTUS (and SYMPHONY). The "blitter" chip: not 500 times faster, only 100 times faster and the chip IS NOT a math co-processor. There have been some rumors that the new STs would include a socket for this new chip. Not so. To install it, you will have to remove the 68000, install a daughter board, and put the blitter chip and the 68000 on this board.

While on the subject of emulators ... what's the most popular computer (and software) in the elementary and secondary school systems? Apple II. Guess what computer company will be releasing an Apple II emulator in two months for a machine called the "ST". You got it!

ST LOGO replaces ATARI LOGO. Atari is shipping an expanded and revised version of LOGO with the new STs that is much faster and includes six new primitives (CALL, SOUND, FULLSCREEN, SYSFACTS, .WDEPOSIT, and .WEXAMINE).

Want a Laser Printer? As some of you know, laser printers are all the rage. Quick, excellent copy, but at a price. Cheapest available at the moment is just a hair under \$2,000. But, be patient. Look for an Atari laser printer this fall, equivalent to the Canon Laser, priced at \$1,200. Enhancements, which will come later, will give this printer a 400 dpi resolution and allow it to compete directly with the Apple Laserwriter.

Software News. The quantity and quality of ST software continues its steady climb. VIP has, indeed, shipped their VIP Professional, a Lotus 1-2-3 clone. The first disks on the street had a number of bugs in them and the memory constraint was quite severe. However, the arrival of the TOS ROM chips will take care of memory constraints and VIP has been fixing the bugs and releasing "patches" which now make this an excellent program.

Those of you waiting for a strong database program now have H&D Base (\$100) available. This dBASE II clone gives the ST a strong and versatile database management package. Within two hours of having opened the package, I had transferred dozens of files totaling several thousand records from dBASE III on an IBM to H&D Base on an ST. This product too has some early bugs, but they are being corrected and Mirage anticipates providing a continuing series of enhancements to the package.

Mirage will have to keep working on enhancements because Versasoft Corp will soon (April 1) be releasing their dBMAN database management product. This system is (90-95%) dBASE II and dBASE III compatible and has a whole host of functions built into the language. Retail price will be \$149 (with a 30-day money-back guarantee, but a special \$99 introductory price will be in effect until April 1).

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John Dvorak's column "INSIDE TRACK" this week discuss the next generation of machine from ATARI and the other guy. Both machines are build designed around Motorola's 68020 CPU chip. The other guy's machine (code named the Ranger) comes with 512K or more and a 1,024 by 780 pixel superhigh resolution display. Gentleman Jack will do a little better. ATARI is working on a system with 1,024 by 1,024 pixel display.

From the online press.....

ELECTRONIC ARTS PLANS TO RELEASE 8-BIT SOFTWARE

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Electronic Arts software company president Trip Hawkins has written the last letter he will ever need to send to Antic Magazine.

"The response of your readers to Antic editorials is growing," wrote Hawkins. "We have received quite a few letters." Quite a few indeed. In a letter-writing campaign initiated over nine months ago with a May, 1985 Antic editorial, not only Antic readers but the entire Atari community begged EA and other major software publishers to release more software for the 8-bit Atari computers.

EA promises to release Adventure Construction Set, Heart of Africa, Mail Order Monsters, Marble Madness, Racing Destruction Set, Skyfox, Software Golden Oldies (Software Country), and Ultima IV (Origin Systems) for the Atari XL/XE 8-bit line of computers in 1986.

"We hope to see at retail the kind of response we have seen in our mailbox!" Hawkins says in conclusion.

BRODERBUND STILL GROWING

The media broadly proclaimed that 1985 was a "dismal" year for the personal computer industry. Broderbund Software proved otherwise. Bolstered by several top selling home productivity and educational packages, spearheaded by the phenomenal bestseller, Print Shop, Broderbund doubled their sales to \$20 million during 1985.

The December issue of Inc. magazine ranked Broderbund as the 13th fastest-growing privately held company in the United States. Microcomputer software distributors First Software and Softsel International also experienced rapid growth during 1985.

ATARI VS. THE WORLD

Atari Corp. has been sued again. This time for \$55.2 million by an (unnamed) Japanese printer maker that claims Atari reneged on a contract to buy 500,000 printers.

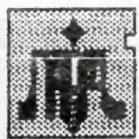
RUMOR HUMOR

This satirical product announcement by Albert Lew of ABACUS, was found recently in the San Francisco-area users group's newsletter:

"Did you hear about the new \$10 EPROM burner coming from Atari? Stick some 128K EPROMS in the blue plastic slots, and pop into the toaster oven. The docs recommend that you think hard about what you want burned, (Commodore, Apple, and IBM are suggested topics) and pray. If you are agnostic, you are requested to send more money to Atari until you get reasonable results."



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Empty Communications Or What is a null modem? By David Frazer

Last Saturday I overheard someone ask what a "null modem" was. And how can it be used to have my 800 talk to my ST?

I've heard this question several other times and unfortunately the term "null modem" is not defined in any of the manuals on communications. Actually, null modem is a fancy name for the cable used to connect two pieces of computer equipment together. That's the simplest part. Let's look at a semi-technical explanation.

In basic computer terms, we have two types of equipment: Data Terminal Equipment which consists of actual computers, terminals, printers and the like; and Data Communication Equipment, which is primarily modems.

In computerese, these are referred to as DTE and DCE. In the beginning of computer history, all computer equipment was hard wired together and none of this nonsense mattered. Then came the days of terminals and connections via the telephone system, which usually meant Ma Bell.

You old-time communicators might recall the days when the only supplier of modems was Ma Bell (for all practical purposes). A modem, or DCE, is used to send computer data over telephone lines; it's basically a computer telephone. Just as two voice telephones connect the mouthpieces of one telephone to the ear-piece of the other via the phone system; two modems connect the data-send circuits of one piece of computer equipment to the data-receive circuits of the other.

The traditional data communications setup is illustrated in Figure 1. The real purpose of the DCEs (modems) and the phone system was to:

1. Connect the two DTEs over long distance via the telephone system.
2. Connect the send side of one side to

the receive of the other telephone.

DTE == DCE >>>> <<<< DCE == DTE
system

Figure 1.

This is the basic method still in use today, but now we can buy modems and telephone service from any suppliers.

send >>> <<< receive
DTE == DCE telephone sys DCE == DTE
receive >>> <<< send

Figure 2

There was one thing that wasn't so good about the traditional setup, though. Suppose you had two pieces of DTE in the same room? Under the traditional setup, in order to connect two DTEs, you needed the DCEs and the phone system because if you connect two DTEs directly, the send of the first DTE is connected to the send of the second.

send —————— send
DTE —————— DTE
receive —————— receive

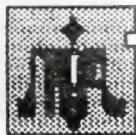
Figure 3

Let's expand the picture and show the correct data paths in Figure 2. In Figure 3, I've removed the modems (DCEs) and the telephone system. Note now that our connection doesn't work because we've connected the mouth piece of my phone (send) to the mouth piece of yours, instead of the ear piece!

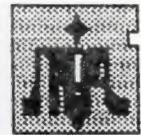
That's it, the setup will not work with a "straight" cable. But if you build a special cable that crosses the send and receive signals as required by two DTEs, then you can eliminate the need for the DCE and the phone system. You need to build a cable which makes the connections described in Figure 4.

send —————— send
DTE —————— DTE
receive —————— receive

Figure 4



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Professional GEM by Tim Oren

THE DIALOG HANDLER

11/7/85

A MEANINGFUL DIALOG

This issue of ST PRO GEM begins an exploration of ST GEM's dialog handler. I will discuss basic system calls for presenting the dialog, and then continue with techniques for initializing and reading on/off button and "radio" button objects. We will also take some short side-trips into the operation of the GEM Resource Construction Set to assist you in building these dialogs.

There are a number of short C routines which accompany this column. These are stored as file GEMCL3.XMO in DL 5 on SIG*ATARI. Before reading this column, you should visit SIG*ATARI (go pcs-132) and download this file.

DEFINING TERMS

A dialog box is an "interactive form" in which the user may enter text and indicate selections by pointing with the mouse. Dialogs in GEM are "modal", that is, when a dialog is activated other screen functions such as menus and window controls are suspended until the dialog is completed.

In most cases, the visual structure of a GEM dialog is specified within your application's resource file. The GEM Resource Construction Set (RCS) is used to build a picture of the dialog.

When the RCS writes out a resource, it converts that picture into a tree of GEM drawing objects and stores this data structure within the resource. Before your application can display the dialog, it must load this resource file and find the address of the tree which defines the dialog.

To load a resource, the AES checks its size and allocates memory for the load. It then reads in the resource, adjusting internal pointers to reflect the load address. Finally, the object sizes stored in the resource are converted from characters to pixels using the system font size.

(A note for those with Macintosh experience: Although Mac and GEM resources share a name, there are fundamental



differences which can be misleading. A Mac resource is a fork within a file; a GEM resource is a TOS file by itself. Mac resources may be paged in and out of memory; GEM resources are monolithic. GEM resources are internally tree structured; Mac resources are not. Finally, Mac resources include font information, while ST GEM does this with font loading at the VDI level.)

The resource load is done with the GEM AES call:

```
ok = rsrc_load(ADDR("MYAPP.RSC"));
```

"MYAPP" should be replaced with the name of your program. Resources conventionally have the same primary name as their application, with the RSC extent name instead of PRG. The ok flag returned by rsrc_load will be FALSE if anything went wrong during the load.

The most common causes of failure are the resource not being in the application's subdirectory, or lack of sufficient memory for GEM to allocate space for the resource. If this happens, you must terminate the program immediately.

Once you have loaded the resource, you find the address of a dialog's object tree with:

```
rsrc_gaddr(R_TREE, MYDIALOG, &tree);
```

Tree is a 32-bit variable which will receive the address of the root node of the tree.

The mnemonic MYDIALOG should be replaced with the name you gave your dialog when defining it in the RCS. At the same time that it writes the resource, RCS generates a corresponding .H file containing tree and object names. In order to use these mnemonics within your program, you must include the name file in your compile:

```
#include "MYAPP.H"
```

BUG ALERT!

When using the DRI/Alcyon C compiler, .H files must be in the compiler's home directory or they will not be found. This is especially annoying using a two floppy drive ST development system. The only way around this is to explicitly reference an alternate disk in the #include, for instance: "B:MYAPP.H"

Now that the address of the dialog tree has been found, you are ready to display it. The standard (and minimal) sequence for doing so is given in routine hndl_dial() in the download. We will now walk through each step in this procedure.

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The `form_center` call establishes the location of the dialog on the screen. Dialog trees generated by the RCS have an undefined origin (upper-left corner).

`Form_center` computes the upper-left location necessary to center the dialog on the screen, and inserts it into the `OB_X` and `OB_Y` fields of the `ROOT` object of the tree. It also computes the screen rectangle which the dialog will occupy on screen and writes its pixel coordinates into variables `xdial`, `ydial`, `wdial`, and `hdial`.

There is one peculiarity of `form_center` which occasionally causes trouble. Normally the rectangle returned in `xdial`, etc., is exactly the same size as the basic dialog box.

However, when the OUTLINED enhancement has been specified for the box, `form_center` adds a three pixel margin to the rectangle returned. This causes the screen area under the outline to be correctly redrawn later (see below). Note that OUTLINED is part of the standard dialog box in the RCS. Other enhancements, such as SHADOWED or "outside" borders are NOT handled in this fashion, and you must compensate for them in your code.

The next part of the sequence is a `form_dial` call with a zero parameter. This reserves the screen for the dialog action about to occur. Note that the C binding given for `form_dial` in the DRI documents is in error: there are nine parameters, not five. The first set of `xywh` arguments is actually used with `form_dial` calls 1 and 2 only, but place holders must be supplied in all cases.

The succeeding `form_dial` call (parameter one) animates a "zoom box" on the screen which moves and grows from the first screen rectangle given to the second rectangle, where the dialog will be displayed.

The use of this call is entirely optional. In choosing whether to use it or not, you should consider whether the origin of the "zoom" is relevant to the operation. For instance, a zoom from the menu bar is relatively meaningless, while a zoom from an object about to be edited in the dialog provides visual feedback to the user, showing whether the correct object was chosen.

If the origin is not relevant, then the zoom is just a time-waster. If you decide to include these effects, consider a "preferences" option in your app which will

allow the experienced and jaded user to turn them off in the interests of speed.

The `objc_draw` call actually displays the dialog on the screen. Note that the address off the tree, the beginning drawing object, and the drawing depth are passed as arguments, as well as the rectangle allotted for the dialog.

In general, dialogs (and parts of dialogs) are ALWAYS drawn beginning at the `ROOT` (object zero). When you want to draw only a portion of the dialog, adjust the clipping rectangle, but not the object number. This ensures that the background of the dialog is always drawn correctly.

The `objc_xywh()` utility in the download can be used to find the clipping rectangle for any object within a dialog, though you may have to allow an extra margin if you have used shadows, outlines, or outside borders with the object.

Calling `form_do` transfers control to the AES, which animates the dialog for user interaction. The address of the dialog tree is passed as a parameter. The second parameter is the number of the editable object at which the text cursor will first be positioned. If you have no text fields, pass a zero. Note that again the DRI documents are in error: passing a -1 default may crash the system. Also be careful that the default which you specify is actually a text field; no error checking is performed.

The `form_do` call returns the number of the object on which the clicked to terminate the dialog. Usually this is a button type object with the `EXIT` and `SELECTABLE` attributes set. Setting the `DEFAULT` attribute as well will cause an exit on that object if a carriage return is struck while in the dialog.

If the top bit of the return is set, it indicates that the exit object had the `TOUCHEXIT` attribute and was selected with a double-click. Since very few dialogs use this combination, the sample code simply masks off the top bit.

The next `form_dial` call reverses the "zoom box", moving it from the dialog's location back to the given `x,y,w,h`. The same cautions apply here as above.

The final `form_dial` call tells GEM that the dialog is complete, and that the screen area occupied by the dialog is now considered "dirty" and needs to be redrawn. Using the

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methods described in our last column, GEM then sends redraws to all windows which were overlaid, and does any necessary redrawing of the menu or desktop itself.

There is one notable "feature" of `form_dial(3)`: It always redraws an area which is two pixels wider and higher than your request! This was probably included to make sure that drop-shadows were cleaned up, and is usually innocuous.

A HANDY TRICK

Use of the `form_dial(3)` call is not limited to dialogs. You can use it to force the system to redraw any part of the screen. The advantage of this method is that the redraw area need not lie entirely within a window, as was necessary with the `send_redraw` method detailed in the last column. A disadvantage is that this method is somewhat slower, since the AES has to decide who gets the redraws.

CLEAN UP

As a last step, you need to clear the `SELECTED` flag in the object which was clicked. If you do not do this, the object will be drawn inverted the next time you call the dialog. You could clear the flag with the `GEM objc_change` call, but it is inefficient since you do not need to redraw the object.

Instead, use the `desele_obj()` code in the download, which modifies the object's `OB_STATE` field directly. Assuming that `ret_obj` contains the exit object returned by `hdl_dial`, the call:

```
desele_obj(tree, ret_obj);  
will do the trick.
```

RECAP

The basic dialog handling method I have described contains three steps: initialization (`rsrc_gaddr`), dialog presentation (`hdl_dial`), and cleanup (`desele_obj`).

As we build more advanced dialogs, these same basic steps will be performed, but they will grow more complex. The initialization will include setting up proper object text and states, and the cleanup phase will also interrogate the final states of objects to find out what the user did.

BUTTON, BUTTON

The simple dialogs described above contain only exit buttons as active objects. As such, they are little more than glorified alert boxes.

We will now increase the complexity a little by considering non-exit buttons. These are constructed by setting the `SELECTABLE` attribute on a button object. At run-time, such an object will toggle its state between selected (highlighted) and non-selected whenever the user clicks on it. (You can set the `SELECTABLE` attribute of other types of objects and use them instead of actual buttons, but be sure that the user will be able to figure out what you intend!)

Having non-exit buttons forces us to consider the problem of initializing them before the dialog, and interrogating and resetting them afterward.

Since a button is a toggle, it is usually associated with a flag variable in the program. As part of the initialization, you should test the flag variable, and if true call:

```
sel_obj(tree, BTNOBJ);  
which will cause the button to appear highlighted when the dialog is first drawn.  
Sel_obj() is in the download. BTNOBJ is replaced with the name you gave your button when you defined it in the RCS. Since the button starts out deselected, you don't have to do anything if your flag variable is false.
```

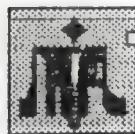
After the dialog has completed, you need to check the object's state. The `selectp()` utility does so by masking the `OB_STATE` field. You can simply assign the result of this test to your flag variable, but be sure that the dialog was exited with an OK button, not with a CANCEL! Again, remember to clean up the button with `desele_obj()`. (It's often easiest to deselect all buttons just before you leave the dialog routine, regardless of the final dialog state.)

WHO'S GOT THE BUTTON?

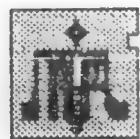
Another common use of buttons in a dialog is to select one of a set of possible options. In GEM, such objects are called radio buttons. This term recalls automobile radio tuners where pushing in one button pops out any others. In like fashion, selecting any one of a set of radio buttons automatically deselects all of the others.

To use the radio button feature, you must do some careful work with the Resource Construction Set.

First, each member of a set of radio buttons must be children of the same parent



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object within the object tree. To create this structure, put a hollow box type object in the dialog, make it big enough to hold all of the buttons, and then put the buttons into the box one at a time.

By nesting the buttons within the box object, you force them to be its children. Each of the buttons must have both the SELECTABLE and RADIO BUTTON attributes set. When you are done, you may make the containing box invisible by setting its border to zero, but do not FLATTEN it!

Since each radio button represents a different option, you must usually assign a name to each object. When initializing the dialog, you must check which option is currently set, and turn on the corresponding button only. A chain of if-then-else structures assures that only one button will be selected.

At the conclusion of the dialog, you must check each button with selectp() and make the appropriate adjustments to internal variables. Again, an if-then-else chain is appropriate since only one button may be selected. Either deselect the chosen button within this chain or do them all at the end.

There is one common use of radio buttons in which you may short-cut this procedure. If the buttons each represent one possible value of a numeric variable, for instance, a set of selector buttons representing colors from zero to seven, then you can compute the initial object directly.

In order for this technique to work, you must use a special capability of the RCS. Insert the object corresponding to a zero value at the top (or left) of your array of buttons, then put the "one" button below (or right) of it, and so on.

When the buttons are complete, the SORT operation is used to guarantee that the top/left object is in fact the first child of the parent box with the others following in order. Due to the details of object tree structure (to be discussed in the next column), this will guarantee that these objects are contiguous in the resource.

If you assign a name (say BUTTON1) to the first button, then you can initialize the correct button with the call:

```
sel obj(tree, BUTTON1 + field);
```

where `field` is the variable of interest.

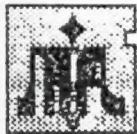
scan the radio buttons to compute the new value for the underlying variable. The encode() procedure in the download will do this. As always, remember to deselect the buttons at the end. You can use offsets or multipliers if your variable's values don't start with zero or increment by one. If the values are irregular you may be able to use a lookup table, at the cost of additional code.

COMING UP NEXT

In the next column, I will discuss the internal structure of object trees. Then we'll use that knowledge to build a piece of code which will "walk" an entire tree and apply a function to each object. We'll apply this code to do all of the button deselects with a single call! I'll also look at handling editable text fields and discuss some ways to alter a dialog's appearance at run-time.

DISPELL GREMLINS

An editing error caused an omission in the first installment of ST PRO GEM. The window components RTARROW and DNARROW should have been listed along with HSLIDE as the horizontal equivalents of the vertical slider components which were discussed.



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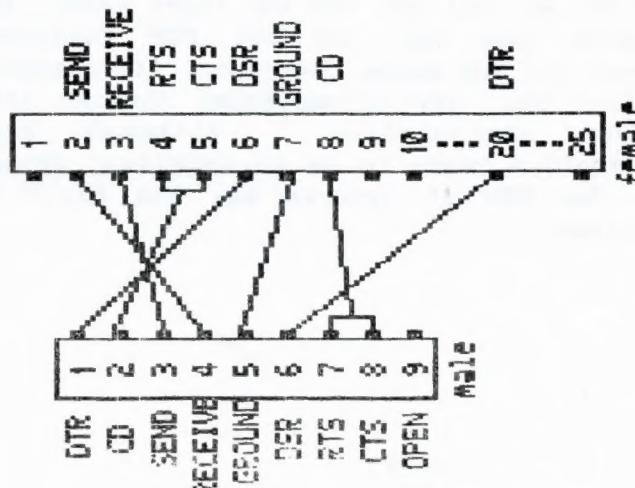


The new cable is often called a "twisted cable" or null modem, meaning empty modem. The cross-connection function of the phone system and modems can be performed by such a cable in those situations where the distance does not require the intervention of the telephone system.

Back to our example (connecting an 800 to the ST). The 800 (via an 850 interface or like device) are both DTEs, and they use the serial port for their data communication connectors. Simplistically, the pins numbered 2 and 3 are the data send and data receive connections.

That's the story in simple terms. Unfortunately, it really gets a bit more complicated in actual use. The RS-232 standard defines signals for all 25 pins

on a 25-pin connector. It's how different builders of DTE equipment use the 23 connections besides data send and date receive that can make the construction of a null modem a bit complicated. Below is the configuration for building a "null modem" cable to connect a 800 directly to an ST.



ZOOMRACKS by Quickview Systems
reviewed by R Duvall

So what is it? The promo that accompanied this package says its :

a project organizer,
a data base,
a card file,
a word processor.

It does contain most of the required features of the above but I would classify Zoomracks as a filing system. The name comes from the metaphor of a rack system of timecards and the zoom feature of a movie camera. You can view the top line of card in a rack (20 at a time) or 20 lines of an individual card. Through the facility called smart zooms, you can view multiple racks at one time (9 max). This is accomplished through removing the vowels and as many constants as necessary to fit the screen.

Each card (quickcard) in the file (zoom rack) contains fields (fieldscrolls). Each field is free format and can be up to 250 lines of 80 characters in length. You can sort racks on any field in the card. You can merge racks to create form letters. You can reformat racks to create mailing labels or other special purpose reports. You can add or delete or modify or change location of any field in a card. You can create macros to reduce repetitive command sequences. You can print out cards or racks. You can cut and paste cards from different or the same rack. There are a number of features that aid you in navigating in and between both fields and racks. And there are help dialogs to assist you if you should get lost.

The program looks as if it were written in Forth (if that really matters) and has many nice features. There is a version for the IBM PC, as well as, for the Atari 520ST. The program does not use any GEM functions except for the mouse interface. All windows, dialogs etc. are accomplished through text screen manipulation. Although this application seems to be an excellent design fit for GEM it ignores all the built in routines.

Zoomracks is designed to contain few limitations but in doing so eliminates a few of the niceties found in other database systems. Such as, Data validation routines, because all fields are free format anything is valid. Just because you label a field DATE doesn't limit its contents. The data may contain the Gettysburg Address. Also the data entry facility is not very appealing, mostly due to the free format capability. There is no facility to compute or mathematically manipulate fields. There are no print formatting functions in this version. And there is no documentation on converting or porting data from other data bases (if it is possible).

I am puzzled as to whether this is a so-so or a good or a great product. I have not encountered any major software problems. Still, I have not found a good personal application for the product. It is different and in being so I wonder if that is why I'm not ecstatic about it. Zoomracks certainly contains some powerful features but I may be too (un)sophisticated for it? I am also disturbed that it ignored the capabilities of GEM and duplicated them at a cost of memory and speed. This could well be the general purpose filler of the future but... I will attempt to demo Zoomracks at a future ST SIG meeting and maybe you can help me decide. There is a contest for the best Zoomracks application : 1st prize is an Atari hard disk, 2nd a color monitor or \$200 3rd prize \$100. Entries must be postmarked by June 30, 1986. Call me for details. -Roy

ALERT - ALERT - ALERT - ALERT

This message comes from the TORONTO ATARI FEDERATION.

In the March issue of Phoenix, a fix for the TOS ROM noise was given. This fix came from a local store and, as it turns out, is wrong. In fact the "fix" could damage the machine.

Please do not proceed to install the ST "fix" as outlined in the March issue of PHOENIX.

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